CLAIMS

1. A method of processing medical image data to determine a prognosis, comprising:

obtaining segmented image data of a portion of the medical image data corresponding to an abnormality;

extracting at least one abnormality feature from the segmented image data corresponding to the abnormality; and

determining the prognosis based on the extracted at least one abnormality feature.

2. The method of claim 1, further comprising:

obtaining segmented image data of a portion of the medical image data corresponding to a parenchymal region; and

extracting at least one parenchymal feature from the segmented image data corresponding to the parenchyma region,

wherein the determining step comprises determining the prognosis on recovery based additionally on the extracted at least one parenchymal feature.

3. The method of claim 2, wherein the step of extracting the at least one parenchyma feature comprises:

determining at least one of skewness, coarseness, and contrast of the segmented image data corresponding to the parenchymal region.

4. The method of claim 2, wherein the step of obtaining the segmented image data of the portion of the medical image data corresponding to the parenchymal region comprises:

obtaining image data corresponding to a region distinct from the abnormality.

5. The method of claim 1, wherein the step of obtaining the segmented image data corresponding to the abnormality comprises:

obtaining an indication of the location of the abnormality in the medical image data; and

performing region growing from the obtained location.

6. The method of claim 1, wherein the obtaining step comprises:

obtaining mammographic image data.

7. The method of claim 1, wherein the extracting step comprises:

determining a radial gradient index.

8. The method of claim 1, wherein the extracting step comprises:

determining at least one of circularity and density of the abnormality.

9. The method of claim 1, wherein the extracting step comprises:

determining at least one of average gray level, contrast, and a texture measure of the abnormality.

10. The method of claim 1, wherein the extracting step comprises:

determining a spiculation measure.

11. The method of claim 10, wherein the step of determining the spiculation measure comprises:

obtaining a cumulative edge gradient histogram of the segmented image data; and

determining the spiculation measure based on the obtained cumulative edge gradient histogram.

12. The method of claim 1, wherein the determining step comprises:

applying the extracted at least one abnormality feature to an artificial neural network (ANN) that classifies the abnormality at an output of the ANN.

13. The method of claim 1, wherein the determining step comprises:

applying the extracted at least one abnormality feature to a linear discriminant that classifies the abnormality at an output of the linear discriminant.

14. The method of claim 1, wherein said determining step comprises:

training a classifier in relation to said at least one abnormality feature obtained from at least one set of previously obtained medical image data based on a set of truth indicators including at least one of lymph node involvement, presence of metastatic disease, presence of local recurrence, and death of a subject to which the previously obtained medical image pertains.

15. The method of claim 2, wherein the step of determining the prognosis based on the extracted at least one parenchymal feature comprises:

applying the extracted at least one parenchymal feature to an artificial neural network (ANN) that determines a numerical indication of the prognosis at an output of the ANN.

16. The method of claim 2, wherein the determining step comprises:

applying the extracted at least one parenchymal feature to a linear discriminant that determines a numerical indication of the prognosis at an output of the linear discriminant.

17. A method of processing medical image data to determine a prognosis, comprising:

obtaining segmented image data of a portion of the medical image data corresponding to a parenchymal region;

extracting at least one parenchymal feature from the segmented image data corresponding to the parenchymal region; and

determining the prognosis based on the extracted at least one parenchymal feature.

18. A computer program product configured to store plural computer program instructions which, when executed by a computer, cause the computer to perform the steps recited in any one of claims 1-17.

19. A system configured to process medical image data to determine a prognosis by performing the steps recited in any one of claims 1-17.